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MEMORANDUM

DCN: TZ4-C10021-EP-11306

DATE: August 6, 1992  
TO: Dave Bennett  
FROM: Lynn Guilford *[Signature]*  
SUBJECT: HRS for Johnson Matthey Electronics, Inc., Spokane, Washington  
EPA No. 68-W9-0008, SAIC/TSC Project No. 6-788-03-1400-300

This HRS score was not submitted with the draft report since there were CBI issues that needed to be resolved. They have been resolved allowing this HRS score to be prepared without a CBI designation.

The Johnson Matthey facility is located at E. 15128 Euclid Avenue in the City of Spokane, Washington. The facility is involved in the manufacturing of high purity metal sputtering targets, seal lids, single crystal semiconductors, high purity metals, ribbon, and fine wires for the electronics industry. Hazardous wastes have been stored in drums onsite throughout the operating history of the facility. It appears that they have not always been strictly managed and maintained in one area. However, documentation on the numbers and all the locations is not available, so all the past drums are assumed to be included in the former drum storage area. The former drum storage area was located on the asphalt parking lot. There is no documentation on the numbers of drums stored there. The current number of drums stored onsite was used to determine the past waste quantity. The current drum storage area was also included in the score but does not have any impact.

A preliminary Hazardous Ranking Score (HRS) of 7.84 was calculated using the following information:

- The ground water migration pathway constituted the majority of the score. Both private and municipal water supplies are provided by the Spokane Aquifer, which underlies the site.
- The soil pathway was scored on the potential for workers to be exposed since the facility is fenced and guarded.
- The surface water route does not score since there is a low potential to release and there are few targets.
- The air pathway receives a minimal score based on the potential for gas to release.

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A disk containing a copy of the PRESCORE file and the ground water score sheets are included. Please feel free to call Kathryn Gladden or myself at 206/485-2818 if you have any questions or comments regarding this memorandum.

Enclosure

cc: T. Post, EPA Work Assignment Manager  
D. Robinson, EPA  
K. Gladden, SAIC/TSC Work Assignment Manager  
L. Guilford, SAIC/TSC



**Technology Services Company**  
A Division of Science Applications  
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PREscore 1.0 - PRESCORE.TCL File 12/23/91  
HRS DOCUMENTATION RECORD  
Johnson Matthey Electronics, Inc. - 08/05/92

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1. Site Name: Johnson Matthey Electronics, Inc.  
(as entered in CERCLIS)
2. Site CERCLIS Number: WAD000064642
3. Site Reviewer: Lynn Guilford
4. Date: June 1992
5. Site Location: Spokane, Washington  
(City/County,State)
6. Congressional District:
7. Site Coordinates: Single

Latitude: 47 41'10.

Longitude: 117 11'45.

	Score
Ground Water Migration Pathway Score (Sgw)	15.63
Surface Water Migration Pathway Score (Ssw)	0.00
Soil Exposure Pathway Score (Ss)	1.20
Air Migration Pathway Score (Sa)	0.45
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Site Score	7.84

NOTE

EPA uses the terms "facility," "site," and "release" interchangeably. The term "facility" is broadly defined in CERCLA to include any area where hazardous substances have "come to be located" (CERCLA Section 109(9)), and the listing process is not intended to define or reflect boundaries of such facilities or releases. Site names, and references to specific parcels or properties, are provided for general identification purposes only. Knowledge regarding the extent of sites will be refined as more information is developed during the RI/FS and even during implementation of the remedy.

1. WASTESTREAM QUANTITY SUMMARY TABLE, SOURCE: Former Drum Storage

a. Wastestream ID	
b. Hazardous Constituent Quantity (C) (lbs.)	0.00
c. Data Complete?	NO
d. Hazardous Wastestream Quantity (W) (lbs.)	0.00
e. Data Complete?	NO
f. Wastestream Quantity Value (W/5,000)	0.00E+00

2. SOURCE HAZARDOUS WASTE QUANTITY FACTOR TABLE

a. Source ID	Former Drum Storage
b. Source Type	Drums
c. Secondary Source Type	N.A.
d. Source Volume (yd3)   Source Area (ft2)	1500.00   0.00
e. Source Volume/Area Value	3.00E+00
f. Source Hazardous Constituent Quantity (HCQ) Value (sum of 1b)	0.00E+00
g. Data Complete?	NO
h. Source Hazardous Wastestream Quantity (WSQ) Value (sum of 1f)	0.00E+00
i. Data Complete?	NO
k. Source Hazardous Waste Quantity (HWQ) Value (2e, 2f, or 2h)	3.00E+00

Source Hazardous Substances	Depth (feet)	Liquid	Concent.	Units
Bis (2-ethylhexyl) phthalate	< 2	YES	1.4E+01	ppm
Butylbenzyl phthalate	< 2	YES	6.8E-01	ppm
Di-n-butyl phthalate	< 2	YES	4.8E-01	ppm
Lead	< 2	NO	1.0E+02	ppm
Methylene chloride	< 2	YES	1.3E-02	ppm
Trichloroethane, 1,1,1-	< 2	YES	6.6E-02	ppm
Zinc	< 2	NO	2.4E+02	ppm

Documentation for Source Type:

Reference: 1

Documentation for Source Hazardous Substances:

Reference: 1

Documentation for Source Volume:

The number of drums stored in the former drum storage area is unknown. It was estimated that approximately 30 drums would have been stored in the area at one time. This is based on there being 31 drums of waste present during the VSI and 54 drums present earlier in April in the current storage area. The main difference was the waste water treatment sludge drums which would not have been present in this area.

Reference: 1

1. WASTESTREAM QUANTITY SUMMARY TABLE, SOURCE: Current Drum Storag

a. Wastestream ID	
b. Hazardous Constituent Quantity (C) (lbs.)	0.00
c. Data Complete?	NO
d. Hazardous Wastestream Quantity (W) (lbs.)	0.00
e. Data Complete?	NO
f. Wastestream Quantity Value (W/5,000)	0.00E+00

2. SOURCE HAZARDOUS WASTE QUANTITY FACTOR TABLE

a. Source ID	Current Drum Storage
b. Source Type	Drums
c. Secondary Source Type	N.A.
d. Source Volume (yd3)   Source Area (ft2)	270.00   0.00
e. Source Volume/Area Value	5.40E-01
f. Source Hazardous Constituent Quantity (HCQ) Value (sum of 1b)	0.00E+00
g. Data Complete?	NO
h. Source Hazardous Wastestream Quantity (WSQ) Value (sum of 1f)	0.00E+00
i. Data Complete?	NO
k. Source Hazardous Waste Quantity (HWQ) Value (2e, 2f, or 2h)	5.40E-01

Source Hazardous Substances	Depth (feet)	Liquid	Concent.	Units
Acetone	< 2	YES	0.0E+00	ppm
Cyanide	< 2	NO	0.0E+00	ppm
Hexane	< 2	YES	0.0E+00	ppm
Methanol	< 2	YES	0.0E+00	ppm
Methylene chloride	< 2	YES	0.0E+00	ppm
Tetrachloroethene	< 2	YES	0.0E+00	ppm
Trichloroethane, 1,1,1-	< 2	YES	0.0E+00	ppm

Documentation for Source Type:

Reference: 1

Documentation for Source Hazardous Substances:

Reference: 1

Documentation for Source Volume:

This is based on 54 drums present during the April inventory.

Reference: 1

3. SITE HAZARDOUS WASTE QUANTITY SUMMARY

No.	Source ID	Migration Pathways	Vol. or Area Value (2e)	Constituent or Wastestream Value (2f,2h)	Hazardous Waste Qty. Value (2k)
1	Former Drum Storage	GW-SW-A	3.00E+00	0.00E+00	3.00E+00
2	Current Drum Storag	GW-SW	5.40E-01	0.00E+00	5.40E-01

4. PATHWAY HAZARDOUS WASTE QUANTITY AND WASTE CHARACTERISTICS SUMMARY TABLE

Migration Pathway	Contaminant Values	HWQVs*	WCVs**
Ground Water	Toxicity/Mobility 1.00E+01	10	3
SW: Overland Flow, DW	Tox./Persistence 1.00E+04	10	18
SW: Overland Flow, HFC	Tox./Persis./Bioacc. 5.00E+05	10	32
SW: Overland Flow, Env	Etox./Persis./Bioacc. 5.00E+07	10	100
SW: GW to SW, DW	Tox./Persistence 4.00E+00	10	2
SW: GW to SW, HFC	Tox./Persis./Bioacc. 1.00E+03	10	10
SW: GW to SW, Env	Etox./Persis./Bioacc. 5.00E+04	10	18
Soil Exposure: Resident	Toxicity 1.00E+04	10	18
Soil Exposure: Nearby	Toxicity 0.00E+00	0	0
Air	Toxicity/Mobility 1.00E+01	10	3

\* Hazardous Waste Quantity Factor Values

\*\* Waste Characteristics Factor Category Values

Note: SW = Surface Water  
GW = Ground Water  
DW = Drinking Water Threat  
HFC = Human Food Chain Threat  
Env = Environmental Threat

GROUND WATER MIGRATION PATHWAY Factor Categories & Factors	Maximum Value	Value Assigned
Likelihood of Release to an Aquifer Aquifer: Spokane Aquifer		
1. Observed Release	550	0
2. Potential to Release		
2a. Containment	10	10
2b. Net Precipitation	10	6
2c. Depth to Aquifer	5	3
2d. Travel Time	35	35
2e. Potential to Release [lines 2a(2b+2c+2d)]	500	440
3. Likelihood of Release	550	440
Waste Characteristics		
4. Toxicity/Mobility	*	1.00E+01
5. Hazardous Waste Quantity	*	10
6. Waste Characteristics	100	3
Targets		
7. Nearest Well	50	2.00E+01
8. Population		
8a. Level I Concentrations	**	0.00E+00
8b. Level II Concentrations	**	0.00E+00
8c. Potential Contamination	**	9.57E+02
8d. Population (lines 8a+8b+8c)	**	9.57E+02
9. Resources	5	0.00E+00
10. Wellhead Protection Area	20	0.00E+00
11. Targets (lines 7+8d+9+10)	**	9.77E+02
12. Targets (including overlaying aquifers)	**	9.77E+02
13. Aquifer Score	100	15.63
GROUND WATER MIGRATION PATHWAY SCORE (Sgw)	100	15.63

\* Maximum value applies to waste characteristics category.

\*\* Maximum value not applicable.

No.	Aquifer ID	Type	Overlaying No.	Inter- Connected with	Likelihood of Release	Targets
1	Spokane Aquifer	Non K	0	0	440	9.77E+02

#### Containment

No.	Source ID	HWQ Value	Containment Value
1	Former Drum Storage	3.00E+00	10
2	Current Drum Storag	5.40E-01	7

  

Containment Factor		10
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Documentation for Ground Water Containment, Source Former Drum Storage:

The drums were stored on asphalt with soil adjacent to the area.

Reference: 1

Documentation for Ground Water Containment, Source Current Drum Storag:

Containers are stored in a building on a cement floor with dividing walls and a sump in each area.

Reference: 1

#### Net Precipitation

Net Precipitation (inches)	0.00
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Aquifer: Spokane Aquifer  
 Type of Aquifer: Non Karst  
 Overlaying Aquifer: 0  
 Interconnected with: 0

Documentation for Spokane Aquifer Aquifer:

The area is underlain by the highly productive Spokane Aquifer.

Reference: 1

OBSERVED RELEASE

No.	Well ID	Well Type	Distance (miles)	Level of Contamination
-----				
- N/A and/or data not specified				

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Observed Release Factor	0
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POTENTIAL TO RELEASE

Containment

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Containment Factor 10

Net Precipitation

-----

Net Precipitation Factor 6

Depth to Aquifer

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A. Depth of Hazardous Substances 0.00 feet

Documentation for Depth of Hazardous Substances:

The only known contamination is surface contamination.

Reference: 1

B. Depth to Aquifer from Surface 68.00 feet

Documentation for Depth to Aquifer from Surface :

The on site well contained water at approximately 68 feet bgs.

Reference: 1

C. Depth to Aquifer (B - A) 68.00 feet

Depth to Aquifer Factor 3

Travel Time

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Are All Layers Karst?

NO

Documentation for Karst Layers:

Reference: 1

Thickness of Layer(s) with Lowest Conductivity 37.00 feet

Documentation for Thickness of Layers with Lowest Conductivity:

The least permeable layer is sand and gravel and starts at  
approximatley 31 feet bgs.

Reference: 1

Hydraulic Conductivity (cm/sec) 1.0E-02

Documentation for Hydraulic Conductivity:

Based on HRS documentation table for sand and gravel.

Reference: 1

Travel Time Factor 35

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Potential to Release Factor	440
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GROUND WATER PATHWAY WASTE CHARACTERISTICS  
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Source: 1 Former Drum Storage

Source Hazardous Waste Quantity Value: 3.00

Hazardous Substance	Toxicity Value	Mobility Value	Toxicity/ Mobility Value
Bis (2-ethylhexyl) phthalate	100	1.00E-04	1.00E-02
Butylbenzyl phthalate	10	1.00E-04	1.00E-03
Di-n-butyl phthalate	10	1.00E-02	1.00E-01
Lead	10000	2.00E-05	2.00E-01
Methylene chloride	10	1.00E+00	1.00E+01
Trichloroethane, 1,1,1-	10	1.00E-02	1.00E-01
Zinc	10	2.00E-03	2.00E-02

Source: 2 Current Drum Storag

Source Hazardous Waste Quantity Value: 0.54

Hazardous Substance	Toxicity Value	Mobility Value	Toxicity/ Mobility Value
Acetone	10	1.00E+00	1.00E+01
Cyanide	100	2.00E-05	2.00E-03
Hexane	10	1.00E-02	1.00E-01
Methanol	1	1.00E+00	1.00E+00
Methylene chloride	10	1.00E+00	1.00E+01
Tetrachloroethene	100	1.00E-02	1.00E+00
Trichloroethane, 1,1,1-	10	1.00E-02	1.00E-01

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GROUND WATER PATHWAY WASTE CHARACTERISTICS  
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Hazardous Substances Found in an Observed Release

Well No.	Observed Release Hazardous Substance	Toxicity Value	Mobility Value	Toxicity/ Mobility Value
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- N/A and/or data not specified

Toxicity/Mobility Value from Source Hazardous Substances:	1.00E+01
Toxicity/Mobility Value from Observed Release Hazardous Substances:	0.00E+00
Toxicity/Mobility Factor:	1.00E+01
Sum of Source Hazardous Waste Quantity Values:	3.54E+00
Hazardous Waste Quantity Factor:	10
Waste Characteristics Factor Category:	3

Population by Well  
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No.	Well ID	Sample Type	Distance (miles)	Level of Contamination Population
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- N/A and/or data not specified

Level I Population Factor: 0.00

Level II Population Factor: 0.00

Potential Contamination by Distance Category  
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Distance Category (miles)	Population	Value
> 0 to 1/4	487.0	5.22E+01
> 1/4 to 1/2	2490.0	1.01E+02
> 1/2 to 1	4119.0	1.67E+02
> 1 to 2	14100.0	2.94E+02
> 2 to 3	16320.0	2.12E+02
> 3 to 4	15433.0	1.31E+02

Potential Contamination Factor: 957.000

Documentation for Target Population > 0 to 1/4 mile Distance Category:

Reference: 1

Documentation for Target Population > 1/4 to 1/2 mile Distance Category:

Reference: 1

Documentation for Target Population > 1/2 to 1 mile Distance Category:

Reference: 1

Documentation for Target Population > 1 to 2 miles Distance Category:

Reference: 1

Documentation for Target Population > 2 to 3 miles Distance Category:

Reference: 1

Documentation for Target Population > 3 to 4 miles Distance Category:

Reference: 1

Nearest Well  
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Level of Contamination: Potential  
Distance in miles: 0.00

Nearest Well Factor: 2.00E+01

Documentation for Nearest Well:

The closest well is on site.

Reference: 1

Resources  
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Resource Use: NO

Resource Factor: 0.00E+00

Documentation for Resources:

**Reference: 1**

Wellhead Protection Area  
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No wellhead protection area

Wellhead Protection Area Factor: 0.00E+00

Documentation for Wellhead Protection Area:

**Reference: 1**